

SCIENTIFIC USER FACILITIES SAFETY NOTICE

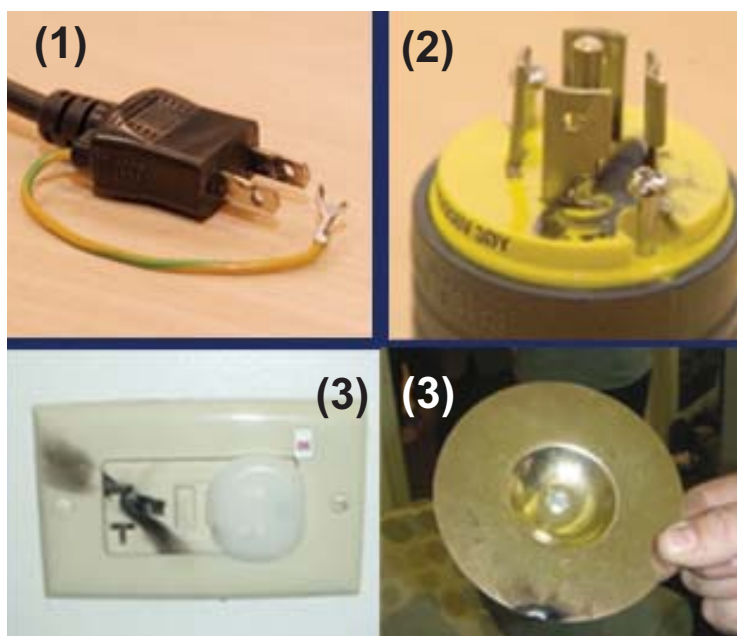
Electrical Shorts across Plug Prongs

Three “close-call” electrical-short events occurred at Argonne within the past six months. All involved shorts across the prongs of electrical plugs inserted into energized receptacles. While no shocks or injuries resulted, and equipment damage was minor, the potential for injury was very real. Each event was reported to the Department of Energy.

(1) In December 2006, a person attempted to insert the plug for a laptop computer battery charger into a receptacle. The plug had a grounding pigtail with a spade connector, which fell across the plug's two prongs causing a short circuit. It was later determined that the cable and plug had not been tested by a nationally recognized testing laboratory (NRTL) and certified for use in the U.S.A. The cable would have been rejected by Argonne based on the use of a pigtail rather than a grounding prong.

(2) In April 2007, someone tried to remove a damaged plug from a 208-V AC receptacle using a pair of needle-nosed pliers rather than contacting APS staff as specified in safety procedures and training. The pliers' tip contacted one of the prongs at the same time the pliers' body was touching the grounded plate surrounding the receptacle, causing a short-to-ground and a small arc flash that melted part of the prong. The circuit breaker did not open because the melting copper acted as a fuse and terminated the circuit.

(3) In May 2007, a child at the Argonne Child Care Center was holding a play cymbal by a wooden handle while standing on a small couch. When the child was told to come down from the couch, the cymbal slid down the wall and between a plug and its receptacle. The edge of the cymbal contacted two prongs in the plug, resulting in a short-to-ground that lasted long enough to open the circuit breaker and melt a small portion of the cymbal.



All employees and users at Argonne should exercise great vigilance in checking to see that:

- Only NRTL-labeled equipment (including separate cables) or equipment inspected by a designated electrical equipment inspector is used.
- Damaged electrical equipment is immediately brought to the attention of safety or beamline personnel.
- All plugs are securely inserted into receptacles, with no gaps showing.